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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/766,607  | 01/27/2004  | Hong Xu              | 100101-000200US     | 3423             |
| 37490 7590 11/18/2008<br>Trellis Intellectual Property Law Group, PC<br>1900 EMBARCADERO ROAD<br>SUITE 109<br>PALO ALTO, CA 94303 |             |                      |                     |                  |
| EXAMINER  |             |                      |                     |                  |
| PARK, JEONG S   |             |                      |                     |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 2454  |             |                      |                     |                  |
| NOTIFICATION DATE   |             | DELIVERY MODE        |                     |                  |
| 11/18/2008  |             | ELECTRONIC           |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/766,607

**Applicant(s)**

XU, HONG

**Examiner**

JEONG S. PARK

**Art Unit**

2454

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 17-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/10/2008 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed 10/10/2008, with respect to claim 1-10 and 17-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milliken (U.S. Patent No. 6,978,384 B1) in view of Jung (U.S. Pub. No. 2001/0052072 A1).

Regarding claims 1, 17 and 20, Milliken teaches as follows:

a method for synchronizing the transfer of sequence numbers over a digital network (methods and systems are provided for sequence number checking by

comparing the sequence numbers of data packets to a sliding window, see, e.g., abstract), wherein an expected sequence number (interpreted as a range of sequence numbers in the sliding window) is compared to a received sequence number to determine if the received sequence number is acceptable, wherein a sequence number is acceptable if it is within a group of sequence numbers defined with respect to the expected sequence number (sequence numbers of data packets are compared to a sliding window, wherein the sliding window indicates a range of sequence numbers considered valid, see, e.g., col. 3, lines 50-56), the method comprising:

- sending a first sequence number (a first multiple level bit map representing a first sequence number of a first packet, see, e.g., col. 2, lines 29-42) to a receiver, wherein the receiver includes an unknown expected sequence number;

- sending a second sequence number (a second multiple level bit map representing a second sequence number of a second packet received by the sequence number checker, see, e.g., col. 2, lines 29-42), wherein the first and second sequence numbers have values (used 32 bit sequence number which values between 0 and  $2^{32}-1$ , see, e.g., col. 7, lines 59-67) such that a subsequently sent starting sequence number is guaranteed to be accepted regardless of the value of the unknown expected sequence number;

- sending the starting sequence number to cause resetting of the receiver to the starting sequence number (a method of maintaining a window of valid sequence numbers by comparing the received sequence numbers to the predefined window and moving the window range based on the comparison, see, e.g., col. 2, lines 43-50,

therefore the subsequently sent next starting sequence number is inherently within the valid window range. Find more details of sliding window protocols in Computer Networks 3<sup>rd</sup> edition, Section 3.4, Tanenbaum, published by Prentice Hall PTR); and

two hosts (100 and 108 in figure 1) communicating over a public network wherein the hosts may be devices such as personal computers, workstations and servers (see, e.g., col. 4, lines 14-28), which inherently include at least one processor and a computer-readable storage device.

Milliken does not explicitly teach sending two sequence numbers to initiate resetting of sequence number at the receiver.

Jung teaches as follows:

method and apparatus for synchronizing the transmitting side and the receiving side in an IP network (see, e.g., page 1, paragraph [0015]);

a sequence number is used to synchronize the transmitting side and the receiving side as an indicator of the order or position of a particular data packet in a burst of packets (see, e.g., page 2, paragraph [0027]);

the length of the sequence number may be dynamically adjusted based on the quality conditions in the IP network (see, e.g., page 3, paragraph [0039]);

when an error message is determined, the sequence number is reset to its initial value (see, e.g., page 4, paragraph [0045] and steps 45-47 in figure 4); and

the transmitter unit then informs the receiver unit that the sequence number will be restarted beginning with a certain data packet or with the next burst of data packets (see, e.g., page 4, paragraph [0045] and step 48 in figure 4).

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine Milliken to include initializing sequence number on error detection as taught by Jung in order to resynchronize between the transmitter and the receiver and then initiate a data recovery.

It would have been obvious for one of ordinary skill in the art at the time of the invention to specify the Jung's error message as a significant sequence number difference between two received sequence numbers.

Therefore, Milliken in view of Jung teach of resetting sequence number at the receiver based on an error message detection, wherein the examiner interpreted the significant difference between two sequence numbers considered as an error message taught by Jung.

Regarding claims 2 and 3, Milliken teaches as follows:

at least one of the sequence numbers (414 in figure 4) is transferred with associated data (payload 406 in figure 4), wherein the sequence number and associated data include a packet (data packet 400 in figure 4)(see, e.g., col. 7, lines 54-67).

Regarding claim 4, Milliken teaches as follows:

the sequence numbers have values within a predetermined range, wherein the range includes a minimum value and a maximum value (used 32 bit sequence number which values between 0 and  $2^{32}-1$ , see, e.g., col. 7, lines 59-67).

Regarding claims 5-10, Milliken teaches as follows:

sequence number and window size are determined based on various factors

such as end-to-end delay and transmission bandwidth (see, e.g., col. 1, line 51 to col. 2, line 25); and

used 32 bit sequence number which values between 0 and  $2^{32}-1$  (see, e.g., col. 7, lines 59-67), wherein 0 is the minimum value and  $2^{32}-1$  is the maximum value.

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Milliken as follows:

using 16 bits sequence number instead of 32 bits (also Jung teaches that the length of the sequence number may be dynamically adjusted based on the quality conditions in the IP network, see, e.g., page 3, paragraph [0039]);

sending the first sequence numbers values one-third or one-half of the maximum value; and

sending the second sequence number values two-thirds of the maximum or maximum.

Regarding claims 18, 19, 21 and 22, they are rejected for similar reason as presented above per claims 5-10.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEONG S. PARK whose telephone number is (571)270-1597. The examiner can normally be reached on Monday through Friday 7:00 - 3:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S. P./  
Examiner, Art Unit 2454

November 10, 2008

/Joseph E. Avellino/

Primary Examiner, Art Unit 2446